U.S. Department of Transportation
United States Coast Guard

National Distress & Response System Modernization Project (NDRSMP)

As America's Lifesaver and Guardian of the Sea, The U.S. Coast Guard prides itself on saving lives and property in peril on the water, protecting the marine environment, safeguarding U.S. economic interests and maritime sovereignty, and defending American citizens and friends worldwide. Twenty-four hours a day, seven days a week, the Coast Guard is responsible for protecting U.S. maritime interests in America's inland waterways, ports and harbors and along some 95,000 miles of U.S. coastlines.

The Coast Guard is perhaps best known worldwide for its search and rescue (SAR) mission expertise that goes back more than 200 years to the earliest days of the Revenue Cutter Service and Life-Saving Service. Today, despite the nation's best efforts to prevent accidents, the Coast Guard responds to almost 60,000 emergency calls and saves nearly 5,000 people in any given year.

The Coast Guard's SAR mission is likely to become even more challenging in the years ahead. Current and future trends indicate: increased maritime trade resulting in unparalleled growth in the size and numbers of ships plying inland, coastal and international waterways; fishing vessels and offshore platforms venturing farther offshore; and dramatically increasing numbers of personal watercraft and recreational boating fueling ever-greater congestion in the nation's waterways. The Coast Guard's SAR assets and capabilities will be challenged as never before. If they are to meet this growing SAR challenge, Coast Guard men and women must have the best available tools.

The existing National Distress and Response System (NDRS) was established in the 1970's. While the existing communications system currently provides VHF-FM coverage up to 20 nautical miles for most of the U.S. coast, numerous limitations of this 30-year old technology hamper efficient and effective SAR efforts. These limitations include: limited direction finding capability, numerous communications coverage gaps, lack of communications interoperability with the Coast Guard's various partners and customers and single channel radio operation which prohibits the ability to receive radio calls when the system is engaged in a transmission. It is not that the current short-range VHF-FM communications system doesn't work; it does. However, it is comprised of obsolete, aging and non-standard equipment, and it is deteriorating quickly.

To address this, the Coast Guard is aggressively pursuing the National Distress and Response System Modernization Project (NDRSMP) that will result in a fully capable, integrated communications system. NDRSMP will revolutionize the Coast Guard's way of communicating and carrying out its many missions of SAR, law enforcement, national defense, environmental response and other operations in support of maritime safety and security. NDRSMP will feature enhanced VHF-FM coverage, position localization on a VHF-FM transmission, increased number of voice and data channels allowing watchstanders to conduct multiple operations, protected communications, asset tracking

and digital voice recording with immediate enhanced playback capability. Improved communications and information sharing, between Coast Guard units and their federal, state and local partners, may make the difference between life and death during emergencies in the maritime environment.

NDRSMP will also meet the International Maritime Organization (IMO) mandate for Digital Selective Calling (DSC). The U.S. committed to this system when the 1988 Global Maritime Distress and Safety System (GMDSS) Amendment to the 1974 International Safety of Life at Sea Convention under the IMO was signed. DSC is an alternate distress communication used internationally on channel 70. If properly registered with a Mobile Maritime Service Identity number and interfaced with the Global Positioning system (GPS), the signal transmits vital vessel information, position and nature of distress (if entered) at the push of a button that can be relayed through other nearby vessels to shoreside rescue authorities. Many radios sold since June of 1999 are DSC capable, however, the Coast Guard will not be able to receive DSC distress transmissions until NDRSMP is fully operational in late 2006.

As indicated, short-range VHF-FM communications is the backbone of the Coast Guard's Search and Rescue operations. Replacing the current distress communications system with a fully capable, integrated system using the technology of today is a matter of public safety, need and expectation. In August of 2000, three companies were awarded contracts for developing a preliminary system design. Upon completion of the preliminary system design a solicitation will be issued for a limited competition between the contractors that will result in the selection of a single contract award for final production design and deployment of the system. The system integration contractor's are Lockheed Martin/NE&SS, Science Applications International Corp. (SAIC) and Motorola System Solutions Group (recently acquired by General Dynamics Decision Systems).

The project will cost an estimated $475-580 million and is being developed and implemented in two phases. The Design Demonstration and Validation Phase, or Phase I was completed on February 5, 2002, which included development/refining of system requirements and specifications, and the development and demonstration of the critical functions of each system integration contractor's system design. The Full-Scale Development Phase, or Phase II, began on February 8, 2002 with the release of the Phase II Request for Proposals (RFP) to the 3 Phase I contractors. Phase II includes full-scale development and operational testing of the system; and production and deployment of the system nationwide.

When the fully modernized NDRSMP architecture is finally operational, the United States will have a maritime distress and response communications system comparable to the land-based systems that many state and local emergency services already have in place. Together, we can help the public understand and see the progress that is continually being made to ensure their maritime safety when challenged by the elements.